

What is claimed is:

1. A semiconductor device test probe having a tip portion for being urged against an electrode pad of an integrated semiconductor device to establish an electrical contact between the tip portion and the electrode pad for testing a function of the semiconductor device:

said tip portion defining a spherical surface having a radius of curvature r expressed by $9t \leq r \leq 35t$, where r is the radius of curvature of said spherical surface and t is the thickness of said electrode pad.

2. A semiconductor device test probe having a tip portion for being urged against an electrode pad of an integrated semiconductor device to establish an electrical contact between the tip portion and the electrode pad for testing a function of the semiconductor device:

said tip portion defining a spherical surface having a first curved surface substantially positioned in the direction of slippage of the probe when the probe is urged against the electrode pad and slipped relative to the electrode pad and a second curved surface opposite to said first curved surface; and

said first curved surface having a radius of curvature of from $7\text{ }\mu\text{m}$ to $30\text{ }\mu\text{m}$ and larger than that of said second curved surface.

3. A method for manufacturing the semiconductor device test probe as claimed in claim 2, comprising the steps of:

roughing said tip portion of said curved surface by abrading by means of electrolyte abrasion or abrading particles to form a symmetrical spherical curved surface; and

finishing said tip portion by sliding it on an abrasive member comprising an elastically deformable thick film fixed to a substrate and having abrasive particles therein or thereon directly or through a metallic film.

4. The semiconductor device test probe as claimed in claim 1, wherein the surface roughness of said tip portion of said probe is equal to or less than $0.4\text{ }\mu\text{m}$.

5. The semiconductor device test probe as claimed in claim 4, wherein said tip portion of said probe comprises fine grooves extending in the direction of scrub of said probe against said electrode pads.

6. A method for manufacturing the semiconductor device test probe as claimed in claim 5, comprising the steps of:

working curved surface of said tip portion into a substantially spherical curved surface by abrasing by means of electrolyte abrasion or abrasing particles to form a symmetrical spherical curved surface; and

inserting or moving said tip portion into said abrasive particles or on a resin including said abrasive particles to form fine grooves extending in the direction of scrub of said probe against said electrode pads

7. The semiconductor device test probe as claimed in claim 1, wherein said probe is made of a metallic material made from a powdery material, and said probe is heat treated, the heat treatment conditions being a non-oxidizing atmosphere, at the treatment temperature of equal to or less than the recrystallization temperature of said metallic material and said non-oxidizing gas is pressurized.

8. A semiconductor device tested by the semiconductor device test probe as claimed in claim 1, wherein the test is achieved by urging said probe against the electrode pad of the semiconductor device, providing a relative sliding movement between said probe and said electrode pad to expel the electrode pad material by making a lamination stack.